Energy Security in the Black Sea Region in the Wake of the Ukrainian Crisis

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- Energy security risks in the Black Sea region
- The case of Bulgaria - regional trends
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- Possible strategies forward
Tools for Quantifying Energy Security: Institute for 21\textsuperscript{st} Century Energy (1)

  - annual energy risk indicator
  - uses quantifiable data, historical trend information, and government projections
  - retrospective look from 1970 to nowadays, and prospectively from nowadays to 30 years ahead

- **International Index of Energy Security Risk (IIESR):**
  - new tool (started in 2012) to help better understand and assess international energy markets
  - 75 countries (top energy users), 8 metric groups, 28 index values
  - Only historical data (back to 1980), no projections

- IIESR metrics used to rank 75 countries:
  - global fuel reserves
  - fuel imports
  - national energy expenditure
  - price and market volatility
  - energy use intensity
  - reliability of electricity generation
  - efficiency of the transport sector
  - environmental factors
Index of Energy Security Risks: Black Sea Region Countries Scores

Source: Institute for 21st Century Energy
Common Energy Security Vulnerabilities (1)

- Energy expenditure
- Energy efficiency and intensity
- Market volatility
- Fossil fuel import exposure and dependence
- Fossil fuel import expenditure to GDP intensity
- CO2 to GDP intensity
Common Energy Security Vulnerabilities (2)

- **Positive results/developments:**
  - Coal import exposure (100% below average OECD risk levels)
  - Electricity capacity diversity (72% below average OECD risk levels)
  - CO₂ emissions trend (48% below average OECD risk levels)
  - Transport energy per capita (42% below average OECD risk levels)
  - Energy consumption per capita (42% below average OECD risk levels)
  - Retail electricity prices (31% below average OECD risk levels)
  - CO₂ per capita (30% below average OECD risk levels)

- **Main energy security challenges:**
  - Energy expenditure volatility (3180% above average OECD risk levels)
  - Energy expenditure intensity (855% above average OECD risk levels)
  - Fossil fuel import expenditure per GDP (377% above average OECD risk levels)
  - CO2 GDP intensity (370% above average OECD risk levels)
  - Energy intensity (289% above average OECD risk levels)
  - Petroleum intensity (252% above average OECD risk levels)
  - Transport energy intensity (197% above average OECD risk levels)
  - Gas import exposure (134% above average OECD risk levels)
Bulgaria (1)

**Bulgaria vs. OECD Risk Index Score**

- **Bulgaria vs OECD: Risk Index Score**
  - Bulgaria: Risk Index Score
  - OECD average

**Risk Variance from OECD**

- **Bulgaria: Risk Variance from OECD**
  - Bulgaria
  - OECD average

*Source: Institute for 21st Century Energy*
Dynamics of Fossil Fuel Import as a % of GDP (Nominal) (1998-2012)

Source: BNB/NSI
Bulgaria (3)

Dynamics of Fossil Fuel Import Growth vs. GDP Growth (Nominal) (1998-2012)

Source: BNB/NSI
Bulgaria (4)

Average Annual Income per Household and Percentage of Expenditure on Energy in Bulgaria (1999-2012)

Source: Eurostat
Bulgaria (5)

Main Heating Source by Type of Settlement (2011)

- **Gas**
  - Total: 0.68%
  - Urban: 0.89%
  - Rural: 0.15%
- **Central heating (incl on gas)**
  - Total: 16.37%
  - Urban: 22.72%
  - Rural: 32.38%
- **Coal**
  - Total: 19.81%
  - Urban: 14.86%
  - Rural: 4.15%
- **Electricity**
  - Total: 28.62%
  - Urban: 38.26%
  - Rural: 62.81%
- **Wood**
  - Total: 34.10%
  - Urban: 22.75%

Source: NSI
Governance Deficiencies: Transparency and Corruption Rankings

Heritage Foundation: Index of Economic Freedom

- Turkey
- Georgia
- Croatia
- Macedonia
- Montenegro
- Romania
- Bulgaria
- Serbia
- Bosnia and Herzegovina
- Greece
- Albania
- Moldova
- Kosovo
- Armenia
- Azerbaijan
- Russia
- Ukraine

Source: Heritage Foundation

Freedom from Corruption (2013 index)  Freedom from Corruption (2014 index)
Governance Deficiencies: State-Owned Enterprises (1)

National Electric Company (Bulgaria): Key Financial Ratios

Source: CSD
Governance Deficiencies: State-Owned Enterprises (2)

Bulgargaz (Bulgaria): Key Financial Ratios

Source: CSD
Public Procurement

- Open procedure under the LPP: 56%
- Negotiated procedure with the publication of a contract notice under the LPP: 22%
- Negotiated procedure without the publication of a contract notice under the LPP: 15%
- Open contest under the RSSPP: 6%
- Negotiated procedure following an invitation under the RSSPP: 1%

Source: CSD, based on Bulgarian Public Procurement Agency
The Russian Factor: Rules of Engagement

- **Widespread corporate involvement**
  - Ownership of strategic assets and companies
  - Involvement in large-scale energy infrastructure projects
  - Energy import dependence

- **Personal political and security links**
- **Opaque and secretive corporate relations**
- **Strong pressure on all governance levels**
- **Soft power**
EU Involvement

- EU’s Neighborhood Policy
- EU’s three pillars of energy policy
  - Competitiveness
  - Security of energy supply
  - Sustainable development

- Inconsistent policy implementation leading to:
  - Major project completion failure
  - Loss of the strategic focus
  - Incoherent and fragmented regional approach
  - Bureaucratic stalling
US Involvement

• US-Russia “reset”

• Official foreign policy and local representation

• Corporate involvement

• Technological leadership
Energy Security in the Black Sea Region: Possible Strategies

• Import diversification
• External technology leadership (role of US)
• Introduction of a EU Energy Union
• Regional approaches:
  - Investment in regional gas interconnectors
  - Restarting Nabucco via a North-South link
  - Promotion of LNG supply from the Middle East and North Africa
Thank You

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